REMARKS

At the outset, it is noted that a shortened statutory response period of three (3) months was set in the June 1, 2006 Official Action. The initial due date for response, therefore, was September 1, 2006. A petition for a two (2) month extension of the response period is presented with this Request for Reconsideration, which is being filed before the expiration of the two (2) month extension period.

It is also noted preliminarily that a complete claim listing has not been submitted with this Request for Reconsideration. According to current PTO claim amendment practice, a complete claim listing is required only when changes are made to any claims. See, http://www.uspto.gov/web/offices/pac/dapp/revised121gnas.htm.

In the June 1, 2006 Official Action, the examiner has repeated and made final the 35 USC §103(a) rejection of claims 8-11, as allegedly unpatentable over Berger et al. in view of Klor and/or Loria. The 35 USC §103(a) rejection of claims 8-14, as allegedly obvious over Berger in view of Klor and/or Loria and further in view of Coupland, has also been repeated and made final. The examiner's reasoning in support of these grounds of rejection is essentially the same as that set forth in the November 4, 2004 Official Action.

The 35 USC §103(a) rejection of claims 8-11 over Klor in view of Loria and further in view of Berger, and of claims 8-14 over Klor in view of Loria, Berger and Coupland, as set forth in the November 4, 2004 Official Action, have not been repeated and, therefore, are presumably withdrawn.

For the reasons presented below, each of the grounds of final rejection set forth in the June 1, 2006 Official Action is respectfully traversed.

The §103(a) rejections that have been maintained are based on interpretations of the cited references that are entirely unwarranted.

Turning first to the obviousness rejection of claims 8-11 based on the combined disclosures of Berger, Klor and Loria, the examiner contends, without any factual support, that "Berger . . . certainly would suggest to one in the art that hypertriglyceridemia could be treated by administering the instant PUFAs . . ." See pages 6-7 of the June 1, 2006 Official Action. This contention is contradicted by the well known etiology of cardiovascular disease (CVD), which is described in the background section of U.S. Patent Application Publication No. 2006/0217356 of Wright et al. (copy attached). As there stated, elevated plasma triglyceride levels, plasma cholesterol and low density lipoprotein (LDL)-cholesterol are independent risk factors for CVD, and are responsive to distinctly different treatments. The independence of these risk factors is clearly borne out by Berger, in which black currant oil (BCO) is proposed for the treatment of lipoprotein disorders associated with cholesterol metabolism. Such disorders, according to Berger, include essential hypercholesterolemia (type IIa), mixed hyperlipidemia* (type IIb) and dys-beta-lipoproteinemia (type III). See column 1, lines 54-68 of Berger. As noted by Berger, essential hypercholesterolemia is characterized, *inter alia*, by a normal triglyceride (TG) level, whereas mixed hyperlipidemia is characterized, *inter alia*, by an increase in, or normal level of TG and dys-beta-lipoproteinemia is characterized, *inter alia*, by an increase in TG. However, all three of these lipoprotein disorders associated with cholesterol metabolism are characterized by at least one of (i) an increase in the cholesterol of the low density lipoprotein (CLDL) and (ii) a reduction in the cholesterol of the high density lipoprotein (CHDL). It is the CLDL risk factor that Berger seeks to counteract by administering BCO, thereby effecting a reduction in the CLDL and a significant increase in the CHDL. See column 1, lines 44-46 of Berger. It is self-evident from the overall disclosure of Berger, therefore, that the levels of TG and CLDL are

* The term "hyperlipidemia" refers to the presence of excess lipids in the blood. As is well known to those of ordinary skill in the art, cholesterol and triglycerides are both lipids. An objective reading of Berger makes it abundantly clear, however, that the method described therein treats only the cholesterol component of hyperlipidemia.

indeed independent risk factors in the etiology of CVD, and that Berger is not at all concerned with the TG risk factor, much less the treatment of hypertriglyceridemia. It is also noteworthy in this regard that the existing treatment regimens for lowering TG and CHDL mentioned in Wright et al. are not the same.

Regarding the alleged obviousness of the amounts of polyunsaturated fatty acids called for in applicant's claims 8-11, the logic of the examiner's position is clearly flawed. The examiner is basically contending that applicant has somehow optimized the effective amounts of fatty acids and dosages described in Berger. However, "optimization" (i.e., the act of making something as effective as possible) presupposes a prior art disclosure of a range or ranges of parameters within which optimization occurs. As stated by the Court in *In re Peterson,* 65 USPQ2d, 1379 (Fed. Cir. 2003), "[t]he normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. [citation omitted]. *Id.* at 1382. What the examiner has overlooked in maintaining this rejection is that Berger does not disclose ranges of amounts of fatty acids that can be optimized. Rather Berger discloses a treatment of lipoprotein disorders associated with cholesterol metabolism using BCO which has a specific composition, as disclosed at column 2 of Berger. Thus, the examiner is mistaken in suggesting that Berger discloses fatty acid amounts that overlap with the ranges recited in applicant's claims. To be sure, the relative amounts of γ-linolenic acid and α-linolenic acid described in Berger fall within the range recited in applicant's claims. However, the specific amounts of linoleic acid and stearidonic acid disclosed in Berger (45 wt % and 3.5 wt %, respectively, which correspond to 57.3 wt % and 4.4 wt %, as a percentage of total polyunsaturated fatty acid content) are not even close to applicant's ranges, i.e., linoleic acid content of 10-35% and stearidonic acid content of 15-55%, as a

percentage of total polyunsaturated fatty acid content .

It has long been recognized that when the difference between a claimed invention and the prior art is in the range or value of a particular variable, then a *prima facie* rejection is properly established when the difference in range or value is minor. See, e.g., *Haynes Int'l Inc. v. Jessup Steel Co.*, 28 USPQ2d, 1652, 1655 n.3 (Fed. Cir. 1993). Conversely, when the difference between the claimed range and the prior art is not minor, *prima facie* obviousness is not properly established. In this case, the differences between the linoleic acid and stearidonic acid content of the respective compositions are neither minor nor even "reasonably close", to use the examiner's characterization. The stearidonic acid content of BCO would have to be increased by over 300% to fall within the claimed range. On the other hand, the linoleic acid content of BCO would have to be reduced by over 35% to fall within the claimed range.

Furthermore, the examiner's response to applicant's argument is notably silent as to the substantial reformulation of Berger's BCO composition that would have to be made to arrive at applicant's fatty acid composition. The examiner cannot simply ignore longstanding precedent such as *Ex parte Hartmann*, 186 USPQ 366 (PTO Bd. Apps. 1974), which stands for the proposition that patent references cannot properly be combined, if the effect of the combination would be to destroy the invention on which one of the reference patents is based.

As for Klor and Loria, neither of these references would provide motivation for those of ordinary skill in the art to modify the BCO composition described in Berger, so as to make it useful for the treatment of hypertriglyceridemia.

The fatty acid composition described in the Klor reference includes, by weight of total fatty acid, 55-95 wt.% of medium chain fatty acids (MCFAs), composed of C_8 and C_{10} acids, which are not polyunsaturated fatty acids. See column 2, lines 8-11 and 33-35, as

well as claim 1 of the Klor reference. Indeed, the Klor reference states that the MCFA content of the composition described therein is "preferably from 65 or even from 70 up to 90g, especially about 75-80g of medium-chained fatty acids ....". See column 2, lines 8-10 of the Klor reference. Thus, the composition disclosed by the Klor reference would allow for a maximum of 45 wt.% (more preferably a maximum of 20-25 wt.%) of fatty acyl compounds other than MCFAs, which includes all of the n–3 polyunsaturated fatty acid components and "other fatty acid" components (the latter category encompassing the n–6 polyunsaturated fatty acids, as well as alpha-linolenic acids). As such, the Klor reference is readily distinguishable from the composition claimed by applicant, which requires a fatty acyl compound mixture having a polyunsaturated fatty acid content of at least 65 wt.%.

Moreover, the Klor reference further discloses that DHA and EPA, which are both n–3 polyunsaturated fatty acids (and not required in an applicants' composition), are preferably present in a combined amount of at least 5 wt.%, more preferably at least 8 wt.% of Klor's nutritional composition. It is clear from the overall disclosure of the Klor reference, therefore, that the composition disclosed therein has to have 60 wt.% (minimum of 55 wt. % of MCFAs + combined DHA and EPA of at least 5 wt. %) or more of fatty acids other than those called for in applicants' claimed method in order to be effective for the treatment of hypertriglyceridemia.

Furthermore, the determination of patentability in this case must take into account that the class of "other fatty acids" are merely optional components (0-30 wt. %) of the nutritional composition described in Klor. According to Klor, the "other fatty acids" include all of the omega-6-polyunsaturated fatty acids, as well as alpha-linolenic acid. Thus, three of the four polyunsaturated fatty acids recited in applicant's claims are not essential to the nutritional composition of Klor. Given this disclosure, it is not at all evident why Klor would have

motivated one of ordinary skill in the art to modify the amounts of these apparently inconsequential fatty acid constituents when practicing Berger's BCO-based method.

Thus, notwithstanding that Klor is concerned with the treatment of hypertriglyceridemia, this reference is no more relevant to the invention of Berger than it is to the invention claimed by applicant, and certainly does not provide the motivation required to modify Berger so as to arrive at applicant's invention.

The Loria reference discloses a method of balancing cooking oil or fat, such as corn, peanut and safflower oil, which contain at least about 7% saturated fatty acids and at least about 5% linoleic acid, by adding an amount of α-linolenic acid equivalent to provide a food product in which the α-linolenic acid content is 1% to 10% of the total fatty acid content of the oil or fat. Such "balanced" oil or fat is disclosed as providing protection against hypercholesterolemia and excess total lipids. The oil or fat composition described as being useful in carrying out the Loria method contains no reported amount of stearidonic acid, which is a required component of the fatty acid composition used in the method of the present invention. Thus, Loria does not provide the disclosure of facts required to support the obviousness argument advanced by the examiner in the June 1, 2006 Official Action.

In view of the clear-cut compositional differences between the oils disclosed in each of the cited references and, more importantly, between the cited references and the fatty acid composition recited in claims 8-11, there is absolutely no motivation for modifying BCO, which is required for use in the Berger method, in order to arrive at the present invention, and certainly no expectation that the resulting composition, even if made, could be effective for the treatment of hypertriglyceridemia.

In summary, the examiner cannot reasonably maintain the position that the cited references clearly demonstrate that "variations in the amounts of each PUFA may result in

treating hypertriglyceridemia", and that one skilled in the art "would recognize that such amounts can be optimized" for such purpose, as asserted at page 7 of the June 1, 2006 Official Action. Only one of the cited references, i.e., Klor, is concerned with treating hypertriglyceridemia. As noted above, however, three of the four polyunsaturated fatty acids required in applicant's claimed method are merely optional in Klor's nutritional composition. Furthermore, contrary to the examiner's assertion, the cited references demonstrate that variations in the amounts of the polyunsaturated fatty acid components present in a fatty acid composition have a substantial influence on the biochemical effect produced by the composition. For example, Berger discloses that evening primrose oil (EPO), which also comprises substantial amounts of polyunsaturated fatty acids, produces a reduction in CLDL with either a concomitant reduction or no modification of CHDL. See column 1, lines 31-41 of Berger. Thus, EPO does not produce the significant increase in CHDL that BCO does, according to Berger. Berger also provides data showing that BCO is far superior to grape seed oil (GSO) for treatment of lipoprotein disorders associated with cholesterol metabolism. GSO also comprises a substantial amount of polyunsaturated fatty acids. However, the administration of GSO was found to produce no improvement in the patient receiving it. See columns 3-5 of Berger. These comparisons clearly demonstrate that variations in the polyunsaturated fatty acid content of oils produce substantial differences in their biochemical effects.

Considering the clear differences that remain between the method claimed in claims 8-11 and the method that would result from combining the disclosures of Berger, Klor and Loria in the manner asserted by the examiner, assuming for the sake of argument that these references can properly be combined in the first instance, the §103 rejection of claims 8-11 based on these references is improper and should be withdrawn.

Regarding the 35 U.S.C. §103(a) rejection of claims 8-14 over Berger considered in view of Klor and/or the Loria and further in view of Coupland, this ground of rejection is untenable for at least the same reasons given above with respect to the impropriety of the §103 rejection of claims 8-11 based on Berger, Klor and Loria. The deficiencies in the combined disclosures of Berger, Klor and Loria have already been discussed above. The disclosure of the Coupland reference fails to make-up for those deficiencies.

There is no dispute that Coupland discloses Echium oil, which is the source material for applicant's preferred composition for treating hypertriglyceridemia. However, Coupland fails to disclose that Echium oil has any anti-hypertriglyceridemic effect. More importantly, as pointed out above, there is no specific teaching in Berger that BCO has any triglyceride lowering effect. Furthermore, the effect which is sought to be obtained by the Berger method, i.e. a reduction in CLDL, while significantly increasing CHDL, is indicated as <u>not obtained</u> when using EPO or GSO, which also have high polyunsaturated fatty acid contents. It cannot reasonably be inferred, therefore, that merely because one fatty acid composition purportedly has a beneficial biochemical effect, that a fatty acid composition made up of similar constituents in substantially different amounts would produce the same effect.

Here again, the result of the proposed combination of references would be to destroy the invention on which the Berger patent is based, i.e., <u>the administration of BCO</u> to produce concomitant reduction in CLDL and significant increase in CHDL. *Cf. Ex parte Hartmann, supra.*

At best, the combined disclosures of Berger, Klor, Loria and Coupland may suggest that it would be obvious to try other fatty acid compositions as a possible treatment for hypertriglyceridimia. It is well-settled, however, that "obvious to try" is not the appropriate standard for determining non-obviousness under 35 USC §103. Indeed, in *In re O'Farrell*, 7

USPQ 2d 1073 (Fed. Cir. 1988), the Court stated that it is error to premise a §103 rejection on the rationale of trying each of numerous possible choices until one possibly arrives at a successful result, where the prior art gives no direction as to which of many possible choices is likely to be successful. This is exactly the rationale on which the present §103 rejection of claims 8-14 is based. That being the case, the rejection is improper and should be withdrawn. See also *In re Geiger*, 2 USPQ 2d 1276, 1278 (Fed. Cir. 1987).

In view of the foregoing discussion, the conclusion is inescapable that the cited references are devoid of any teaching or suggestion that would prompt one of ordinary skill in the art to modify the BCO composition described in Berger, based on the diverse fatty acid compositions disclosed in Klor, Loria and Coupland so as to arrive at applicant's composition, and to use the same with a reasonable expectation of successfully treating hypertriglyceridemia. It must be the case, therefore, that the examiner is relying on the knowledge generally available to one of ordinary skill in the art to justify these rejections. If so, this must be clearly and properly reflected in the record, as required by *In re Lee*, 61 USPQ2d, 1430, 1435 (Fed. Cir. 2002) ("when [the examiner and the Board] rely on what they assert to be general knowledge to negate patentability, that knowledge must be articulated and placed on the record. . . The Board cannot rely on conclusory statements when dealing with particular combinations of prior art and specific claims, but must set forth the rationale on which it relies"). Accordingly, to the extent that the prior art rejections maintained in this case are based on facts within the personal knowledge of the examiner, it is respectfully requested that the examiner make such facts of record in the form of an affidavit, as provided in 37 CFR §1.104(d), so that applicant may be better apprised of the examiner's position and take such responsive action as may be appropriate in accordance with Rule 104(d).

Lastly, applicant respectfully takes exception to the examiner's assertion, at page 7 of

the June 1, 2006 Official Action, that applicant is "attacking references individually". It is quite clear in the response to the preceding Official Action that applicant presented proper argument, accompanied by detailed reasons, demonstrating that the examiner failed to establish a *prima facie* case of obviousness on the present record. Specifically, applicant argued that Klor and Loria failed to compensate for the acknowledged deficiencies in Berger with respect to the respective amounts of polyunsaturated fatty acids in the fatty acid composition called for in the claims. Applicant further argued that one of ordinary skill in the art would not find in Berger any suggestion that a fatty acid composition can be used successfully to treat hypertriglyceridemia and that the examiner's additional reliance on Coupland is unwarranted because Coupland is not at all concerned with the treatment of hypertriglyceridemia. Thus, the cited references, considered together, provide no suggestion to combine their teachings, no reasonable expectation of success and no teaching or suggestion of all of the claim limitations, as required by §706.02(j) of the Manual of Patent Examining Procedure.

Moreover, the cases cited by the examiner as supposedly supporting this erroneous assertion are readily distinguishable from the present case. In *In re Keller*, 208 USPQ 871 (CCPA 1981), a declaration presented on behalf of applicant to refute an obviousness rejection addressed only one reference from among the two combinations of three prior art references on which the rejection was based. This is unquestionably not the situation in the present case. As for *In re Merck & Co.*, 231 USPQ 375 (Fed. Cir. 1986), the applicant in that case, in attempting to overcome an obviousness rejection, argued that one out of nine references cited in support of the rejection purportedly taught away from the claimed invention. This argument was dismissed in view of virtually overwhelming evidence of obviousness provided by the nine cited references, when considered together, which included

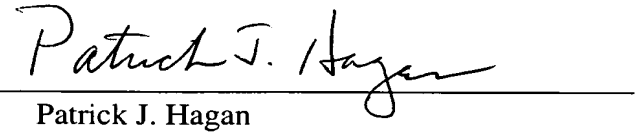
clear evidence of a reasonable expectation of success. No comparable volume of evidence supporting a finding of obviousness has been cited by the examiner in the present case.

In view of the foregoing remarks, it is respectfully requested that the rejections set forth in the June 1, 2006 Official Action be withdrawn and that this application be passed to issue, and such action is earnestly solicited.

Respectfully submitted,

DANN DORFMAN HERRELL and SKILLMAN, P.C.

Attorneys for Applicant

By 

Patrick J. Hagan
Registration No. 27,643

Enclosure:
- U.S. Patent Application Publication No. 2006/0217356 of Wright et al.

Customer Number 000110
(215) 563-4100 (telephone)
(215) 563-4044 (facsimile)
phagan@ddhs.com (email)